

REMARKS

Claims 1-18 are pending.

Claims 1-7 and 10-18 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

Claims 1, 2, 10, and 16 (along with their respective dependent claims) are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 8-9 are allowed.

Claims 1, 2, 10, and 16 are amended herein.

Claims Rejections:**Claims 1-7 and 10-18 -- §112, Second Paragraph**

With respect to claims 1 and 16, the Examiner states:

[T]he phrase “the error between measured clutch slip and a reference slip profile” suggests that between every ‘measured slip and a reference slip profile’ there is an error. Is that the case? Otherwise, there is a lack of antecedent basis.

With respect to claim 1, the portion of claim 1 cited by the Examiner is a fragment of the actual claim step, which fully recites: “providing a feedback input command which is a function of the error between measured clutch slip and a reference slip profile.” The feedback input command, i.e. the output signal from PID block 30, is described at paragraph [0016] with reference to Figure 2:

A feed-back command block 26 compares a reference slip profile 28 to a measured clutch slip (ω_{slip}) at the subtraction block 29 to determine an error, and operates on the error in a proportional integral derivative block 30

before outputting a feed-back command which is summed with the feed-forward command 24 at the summation block 32.

The Examiner appears to assume that an error value is necessarily non-zero. However, as will be understood by those of ordinary skill in the art of control systems in general, and PID controllers in particular, an error value of zero is still an error value, and a zero error is readily usable as an input value by a PID control device such as element 30 of Figure 2. In the event of such a zero error, which in the present application occurs when the measured clutch slip (ω_{slip}) equals the reference slip profile 28, the output of summation block 32 would equal the input from the feed forward block 24. Such a zero error may be unlikely to occur in a dynamic system, but nevertheless remains possible.

However, for clarity consistent with the Examiner's comments, claim 1 is amended herein to recite "providing a feedback input command which is a function of *an error value equaling a calculated difference* between a measured clutch slip and a reference slip profile". (emphasis added). Clearly, a calculated difference may equal zero when the compared values are precisely equal. Accordingly, the §112, second paragraph rejection of claim 1 is believed to be overcome, and claim 1 is believed to be properly allowable.

With respect to claim 16, this claim is amended as explained above with reference to claim 1.

With respect to claims 2, 10, and 16, the Examiner states: "a normal driving portion" is vague and indefinite. What is considered 'normal' in this case?

The term "normal" is believed to be sufficiently definite as shown in Figure 3 and disclosed in paragraph [0019], as the term is used to describe a period 40 "before the upshift point" (line 3) and "the secondary low slip amount" (line 12).

For clarity, however, claims 2, 10, and 16 are amended herein to recite "a driving portion in which a *first* low slip amount is maintained; a pre-shift portion in which slip is increased from said *first* low slip amount to a medium slip amount when approaching a vehicle shift speed; a during-shift portion in which slip increases from said medium slip amount to a peak slip amount and then decreases to a *second* low slip amount; and a post-shift portion in which said *second* low

slip amount is maintained.” Accordingly, amended claims 2, 10, and 16 are believed to be sufficiently definite, and are therefore believed to be properly allowable.

With respect to claims 3-7, 11-15, 17, and 18, the Examiner states that these claims are necessarily rejected. However, claims 3-7 ultimately depend from claim 1, claims 11-15 ultimately depend from claim 10, and claims 17 and 18 ultimately depend from claim 16, with claims 1, 10, and 16 believed to be in proper condition for allowance in light of the amended claim language as discussed hereinabove.

Accordingly, for at least the same reasons as claims 1, 10, and 16, the respective dependent claims 3-7, 11-15, and 17-18 are believed to be in proper condition for allowance.

Allowable Subject Matter:

Claims 1, 2, 10, and 16

The Examiner states that claims 1, 2, 10, and 16 (along with their dependent claims) are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, claims 1, 10, and 16 are independent claims, and as such are already in independent form. Therefore, it is believed that this section of the Office Action is intended to refer instead to the dependent claims 3-7 (depending from claim 1), 11-15 (depending from claim 10), and 17-18 (depending from claim 16). These claims are each believed to be in proper condition for allowance as discussed previously hereinabove. Dependent claim 2, also depending from claim 1, is discussed separately above and is also believed to be in proper condition for allowance for at least the same reasons as claim 1.

Claims 8 and 9


The Applicants note with appreciation the Examiner’s indication of allowability of claims 8 and 9.

Conclusion

This Amendment is believed to be fully responsive to the Office Action mailed June 4, 2007. The remarks in support of the amended claims are believed to place this application in condition for allowance, which action is respectfully requested.

Respectfully submitted,

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Date: 8-30-07

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